

ABSTRACT OF THE DISCLOSURE

A needle driving apparatus for sternal closure following sternotomy. Accessory elements include: 1) a straight surgical needle absent attached suture and 2) a separate suture carrying small cylinders at opposing ends. Apparatus provides a dual capability of 1) needle penetration of sternum from top surface and 2) precise positioning of cylinder at undersurface of sternum. The apparatus is a handled framework supporting a ratchet type drive assembly which includes a lever, a pawl, biasing springs and a toothed arm which carries a needle. A framework extension carries a socketed fixture. The fixture precisely positions a cylinder and its suture in the socket. When the lever is taken up by hand, motion is imparted to the arm and needle. The needle penetrates the sternum, then the cylinder, where it becomes locked therein by friction. Retrograde extraction of needle (using a conventional needle driver) delivers the suture by shuttle action to its desired position, atop the sternum. Repetition on the procedure described, on the opposing side of the sternum completes the placement of a single suture.